

IN THE CLAIMS:

Please cancel claims 1-49 and 63-169.

1-49. (Cancelled)

50. (Original) A method for pouring molten metal into a casting mold within a vacuum furnace, comprising:

providing a crucible with a discharge aperture and a pour assembly located within the crucible, the pour assembly including an upstanding outer tube positioned around an upstanding inner tube, the inner tube is in fluid communication with the discharge aperture;

melting a metal material within the crucible to a liquid state;
flowing the liquid state metal from the crucible into a cavity defined between the outer tube and the inner tube;

overfilling the cavity so that liquid state metal flows into and fills the inner tube;

stopping the filling of the inner tube; and

discharging the liquid state metal from the inner tube.

51. (Original) The method of claim 50:

wherein in said providing the outer tube has a plurality of inlet apertures;

wherein said flowing involves passing the molten metal through the plurality of inlet apertures; and

which further includes increasing the pressure differential between the discharge aperture and the molten metal within the crucible.

52. (Original) The method of claim 51, wherein said increasing includes applying a positive pressure to the molten metal within the crucible.

53. (Original) The method of claim 52, wherein said applying a positive pressure includes advancing the unmelted metal material stock into the molten metal within the crucible.

54. (Original) The method of claim 50, wherein said flowing includes creating a pressure differential between the molten metal within the crucible and the cavity between the outer tube and the inner tube, and wherein the pressure on the molten metal in the crucible is greater than the pressure within the cavity between the outer and inner tube.

55. (Original) The method of claim 54, wherein said overflowing of the cavity includes maintaining a pressure differential between the molten metal in the crucible and the cavity between the outer tube and the inner tube, and wherein the pressure on the molten metal in the crucible is greater than the pressure within the cavity between the outer and inner tube.

56. (Original) The method of claim 55, wherein said stopping occurs when the pressure in the cavity between the inner and outer tube is greater than the pressure of the molten metal within the crucible.

57. (Original) The method of claim 50, which further includes providing a nozzle in flow communication with the discharge aperture, and which further includes flowing a quantity of molten metal into the cavity to heat at least a portion of the nozzle.

58. (Original) The method of claim 50, which further includes sensing the discharge of molten metal from the discharge aperture, and upon said sensing said stopping occurring.

59. (Original) The method of claim 50, which further includes providing a casting mold adapted to receive the molten metal, and which further includes connecting the discharging of the molten metal with the casting mold in a confined passageway.

60. (Original) The method of claim 59:

which further included providing a nozzle in flow communication with the discharge aperture and extending therefrom; and

which further includes positioning the nozzle adjacent an inlet to the casting mold prior to said discharging.

61. (Original) The method of claim 60, wherein said discharging delivers a substantially vertical stream of molten metal.

62. (Original) The method of claim 60, which further includes moving the casting mold to align the casting mold inlet with the nozzle.

63-169. (Cancelled)